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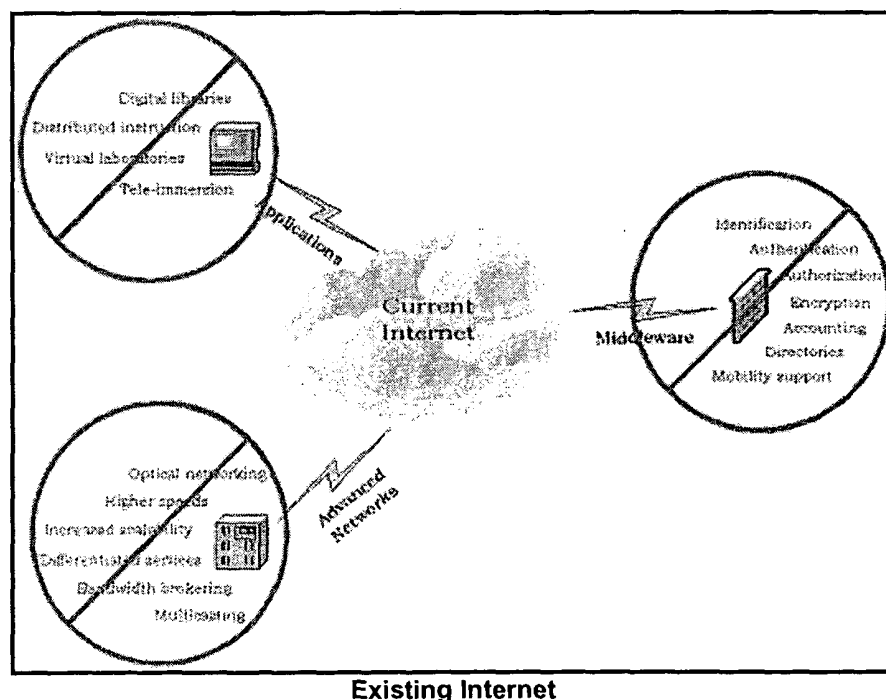
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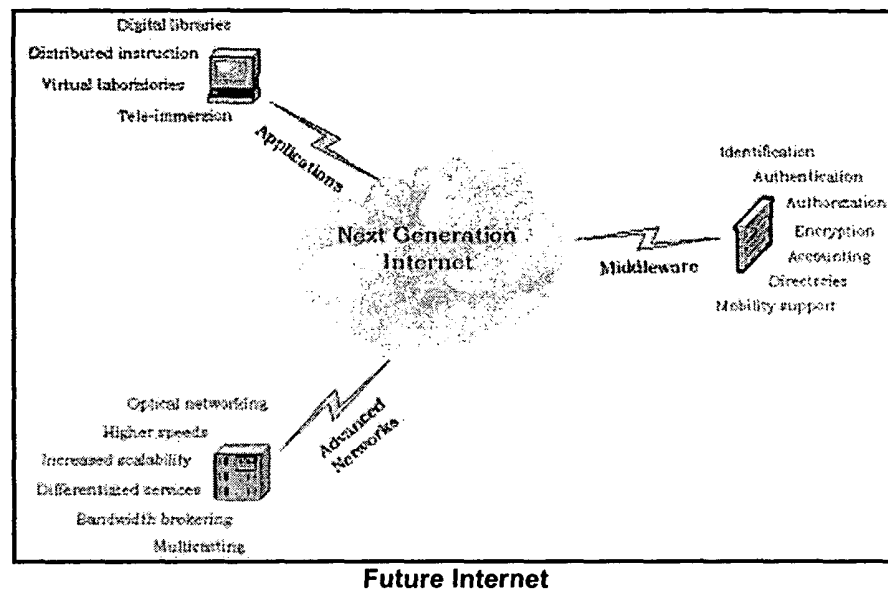
NGI Objectives

The NDMA project must demonstrate important and significant applications in healthcare, health education or research that are dependent on at least two of the following NGI capabilities. NGI requires capabilities above and beyond the current capabilities of the Internet (up to 1000 time or more faster)

- Quality of Service (QoS)
- Medical Data Privacy and Security
- Nomadic Computing
- Network Management Research and Development
- Infrastructure Technology as a means for Collaboration

The NDMA project team will demonstrate and apply all five areas.





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Approach to Developing NGI Network

- Establish high-speed network connectivity between four clinical sites and one technology site.
- Utilize existing high-speed networks (ESnet, ABILENE, CANet*3) with proper NGI functionality
- Demonstrate QoS for guaranteed bandwidth, guaranteed delivery, distributed control; develop and measure metrics for the network is end-to-end delay, which is affected by propagation, queuing, and transmission delays, packet loss probability, and available bandwidth
- Demonstrate scalability; i.e., the performance of the system has to be maintained as the amount of storage and the number of requests increases
- Demonstrate nomadicy by having information follow the patient, available anywhere, whenever needed
- Develop network scheduler to coordinate the storage and retrieval of non-real-time screening data in specific time slots with enough capacity left over to handle real-time diagnostic data.

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Network Maps

Top Level Drawing	Drawing of the National Network
E. US Top Level Drawing	Drawing of Eastern US Network
ABILENE Connections Map	Connections map as of 5/5/2000 (pdf file)
ESNet Drawing	National Energy Network (Early 2000)
CANet*3	Canadian Gigabit Ethernet Network

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